# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/832,512 | 04/11/2001 | Aaron Valdivia | PD-200254 | 2490 |

7590        07/06/2004

Hughes Electronics Corporation
Patent Docket Administration
P. O. Box 956
Bldg. 1, Mail Stop A109
El Segundo, CA 90245-0956

| EXAMINER |
|---|
| DEAN, RAYMOND S |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2684 | |

DATE MAILED: 07/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 09/832,512 | VALDIVIA ET AL. |
| | Examiner | Art Unit |
| | Raymond S Dean | 2684 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL**.     2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) _1 - 58_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1 - 58_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

# DETAILED ACTION

## *Response to Arguments*

1.    Applicant's arguments, see amendment, filed April 27, 2004 with respect to the rejection(s)of claim(s) 1 – 4, 5 – 7, 11, 13 – 18, 22, 24 – 29, 33, 36 – 41, 45, 47 – 53, and 57 under 35 U.S.C. 103 based on Kay (US 2002/0147011) in view of Jacobson et al. (US 6,381,250) and based on Kay (US 2002/0147011) in view of Jacobson et al. (US 6,381,250) and in further view of Heatwole et al. (US 2002/0021678) have been fully considered and are persuasive.  Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of an updated search.

## *Claim Rejections - 35 USC § 103*

2.    The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.    Claims 1 – 9, 13 – 20, 24 – 31, 35, 36 – 43, and 47 – 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montpetit (US 6,366,761) in view of Jacobson et al. (US 6,381,250).

Regarding Claim 1, Montpetit teaches a method of managing system capacity of a communication system, the method comprising: receiving a predetermined profile of a terminal that is served by the communication system, the predetermined profile including service class information and rate information (Column 4 lines 61 – 64, Column 5 lines 62 – 67, Column 6 lines 1 – 2, Column 7 lines 64 – 67, Column 8 lines 1 – 5, Column 8 lines 31 - 40); generating a capacity plan based upon the predetermined profile (Column 6 lines 56 - 61); and configuring a remote processor according to the capacity plan, the remote processor being configured to process bandwidth request messages from the terminal and to selectively allocate bandwidth to the terminal in response to the bandwidth request messages (Column 9 lines 40 - 45).

Montpetit does not teach receiving system capacity resource configuration data that reflect capacity requirements of a service provider and generating a capacity plan based upon said capacity resource configuration.

Jacobson teaches the method of receiving system capacity resource configuration data that reflect capacity requirements of a service provider and generating a capacity plan based upon said capacity resource configuration (Column 8 lines 33 – 39).

Montpetit and Jacobson (Column 3 lines 6 – 9) both teach a satellite network that manages the bandwidth such that there is an efficient use of said bandwidth thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the method described above in Jacobson in the satellite network of Montpetit for the purpose of analyzing network usage patterns such that a transmission

plan schedule that efficiently allocates satellite bandwidth available to the network

based on the history of said usage patterns is determined.

Regarding Claim 2, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 1. Montpetit further teaches controlling admission of the

terminal into the communication system based, in part, on the ST profile (Column 5

lines 65 – 67, Column 11 lines 43 – 48, the satellite system only recognizes ground

terminals is one of the four classes thus if a ground terminal does not fall into one of

said four classes said ground terminal will be denied access).

Regarding Claim 3, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 1. Montpetit further teaches inputting the predetermined

profile of the terminal by the service provider (Column 5 lines 6 – 10, the user interface

will allow the inputting of data), the predetermined profile being based on a service level

agreement (Column 5 lines 62 – 67, the demands and service parameters for a

particular market will determine the service level agreements).

Regarding Claim 4, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 3. Jacobson further teaches an operator interface (Column 8

lines 33 – 39).

Regarding Claim 5, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 4. Montpetit further teaches specifying whether to permit the

terminal to burst over a committed information rate (CIR) (Column 8 lines 1 – 5, rate

based requests require a dedicated number of slots per frame and thus there will be a

committed information rate).

Regarding Claim 6, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 4.  Jacobson further teaches performing on an hourly basis

(Column 3 lines 38 – 44, the scheduled time can be hourly).

Regarding Claim 7, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 1.  Jacobson further teaches uplink and downlink capacity of

a satellite (Column 13 lines 65 – 67, Column 14 lines 1 – 4).

Regarding Claim 8, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 7.  Montpetit further teaches wherein the uplink capacity is

categorized according to service classes that include a scheduled class (Column 7 lines

64 – 67, Column 8 lines 1 – 5, since the terminal is allocated a specified number of time

slots per frame said terminal will be scheduled to transmit on said time slots per frame),

an on-demand class (Column 6 lines 56 – 61), a high priority connectionless class

(Column 6 lines 1 – 2, Column 8 lines 31 – 40), and a low priority connectionless class

(Column 6 lines 1 – 2, Column 8 lines 31 – 40).  Jacobson further teaches the downlink

capacity being categorized according to transmission services that include a broadcast

service (Column 14 lines 33 – 39), a multicast service (Column 14 lines 33 – 39), and a

point-to-point service (Figure 1, there is a link between point 1 (satellite) and point 2

(site 1)).

Regarding Claim 9, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 8.  Montpetit further teaches information relating to the

service classes of the uplink capacity (Column 5 lines 65 – 67, Column 6 lines 1 – 2,

Column 6 lines 56 – 58).  Jacobson further teaches transmission services of the

downlink capacity (Column 14 lines 33 – 39).

Regarding Claim 13, Montpetit teaches managing system capacity of

communication system, comprising: a service provider interface configured to receive a

predetermined profile of a terminal that is served by the communication system (Column

5 lines 6 - 10); and generating a capacity plan based upon the predetermined profile

that includes service class information and rate information (Column 5 lines 62 – 67,

Column 6 lines 1 – 2, Column 6 lines 56 – 61, Column 7 lines 64 – 67, Column 8 lines 1

– 5, Column 8 lines 31 - 40), wherein a remote processor is configured according to the

capacity plan, the remote processor being configured to process bandwidth request

messages from the terminal and to selectively allocate bandwidth to the terminal in

response to the bandwidth request messages (Column 9 lines 40 - 45).

Montpetit does not teach a communication hub, an operator interface configured

to receive system capacity resource configuration data that reflect capacity

requirements of a service provider, a computer system communicating with the operator

interface.

Jacobson teaches a communication hub (Column 8 lines 33 – 39), an operator

interface configured to receive system capacity resource configuration data that reflect

capacity requirements of a service provider (Column 8 lines 33 – 39), a computer

system communicating with the operator interface (Column 8 lines 33 – 39).

Montpetit and Jacobson (Column 3 lines 6 – 9) both teach a satellite network that

manages the bandwidth such that there is an efficient use of said bandwidth thus it

would have been obvious to one of ordinary skill in the art at the time the invention was

made to use the operator interface with computer described above in Jacobson in the

satellite network of Montpetit for the purpose of analyzing network usage patterns such

that a transmission plan schedule that efficiently allocates satellite bandwidth available

to the network based on the history of said usage patterns is determined.

Regarding Claim 14, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 13. Montpetit further teaches the predetermined profile of

the terminal is based upon a service level agreement between the service provider and

an operator of the communication system (Column 5 lines 62 – 67, the demands and

service parameters for a particular market will determine the service level agreements).

Regarding Claim 15, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 14. Jacobson further teaches a database configured to store

(Column 8 lines 33 – 39, the workstation will store capacity allocation information such

that an operator can monitor and configure said capacity allocation thus there is an

inherent database for said storage of said capacity allocation).

Regarding Claim 16, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 15. Jacobson further teaches specifying to occurring on an

hourly basis (Column 3 lines 38 – 44, the scheduled time can be hourly).

Regarding Claim 17, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 15. Montpetit further teaches specifying whether to permit

the terminal to burst over a committed information rate (CIR) (Column 8 lines 1 – 5, rate

based requests require a dedicated number of slots per frame and thus there will be a

committed information rate).

Regarding Claim 18, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 13. Jacobson further teaches wherein the system capacity

includes uplink and downlink capacity of a satellite (Column 13 lines 65 – 67, Column

14 lines 1 – 4). Montpetit further teaches managing the uplink capacity and the

downlink capacity by controlling admission of the terminal (Column 11 lines 43 – 48).

Regarding Claim 19, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 18. Montpetit further teaches wherein the uplink capacity is

categorized according to service classes that include a scheduled class (Column 7 lines

64 – 67, Column 8 lines 1 – 5, since the terminal is allocated a specified number of time

slots per frame said terminal will be scheduled to transmit on said time slots per frame),

an on-demand class (Column 6 lines 56 – 61), a high priority connectionless class

(Column 6 lines 1 – 2, Column 8 lines 31 – 40), and a low priority connectionless class

(Column 6 lines 1 – 2, Column 8 lines 31 – 40). Jacobson further teaches the downlink

capacity being categorized according to transmission services that include a broadcast

service (Column 14 lines 33 – 39), a multicast service (Column 14 lines 33 – 39), and a

point-to-point service (Figure 1, there is a link between point 1 (satellite) and point 2

(site 1)).

Regarding Claim 20, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 19. Montpetit further teaches a database configured to store

system capacity resource configuration data that include information relating to the

service classes of the uplink capacity (Column 5 lines 65 – 67, Column 6 lines 1 – 2, Column 6 lines 56 – 58, Column 11 lines 43 – 48, the satellite system will only allocate bandwidth to terminals that are in one of the four classes thus there is an inherent database for the determination of whether or not a requesting terminal is permitted terminal). Jacobson further teaches transmission services of the downlink capacity (Column 14 lines 33 – 39).

Regarding Claim 24, Montpetit teaches a satellite communications system for providing communication services to a region, comprising: a terminal located within the region and configured to transmit and receive signals over a satellite having a payload that processes the signals (Column 4 lines 61 – 64, Column 9 lines 40 – 45), the terminal having a predetermined profile that includes service class information and rate information (Column 5 lines 62 – 67, Column 6 lines 1 – 2, Column 6 lines 56 – 61, Column 7 lines 64 – 67, Column 8 lines 1 – 5, Column 8 lines 31 - 40), transmitting configuration information to the payload of the satellite, wherein the terminal is configured to transmit a bandwidth request message to the payload (Column 9 lines 40 – 45), the payload selectively allocating bandwidth in response to the request message based upon the configuration information (Column 9 lines 40 – 45, Column 11 lines 43 – 48).

Montpetit does not teach a hub configured to receive system capacity resource configuration data that reflect capacity requirements of a service provider and to determine partitioning of system capacity over the region based upon the system capacity resource configuration data.

Jacobson teaches a hub configured to receive system capacity resource configuration data that reflect capacity requirements of a service provider and to determine partitioning of system capacity over the region based upon the system capacity resource configuration data (Column 8 lines 33 – 39).

Montpetit and Jacobson (Column 3 lines 6 – 9) both teach a satellite network that manages the bandwidth such that there is an efficient use of said bandwidth thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the hub configuration described above in Jacobson in the satellite network of Montpetit for the purpose of analyzing network usage patterns such that a transmission plan schedule that efficiently allocates satellite bandwidth available to the network based on the history of said usage patterns is determined.

Regarding Claim 25, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 24. Montpetit further teaches wherein the predetermined profile of the terminal is specified by a network service provider according to a service level agreement (Column 5 lines 62 – 67, the demands and service parameters for a particular market will determine the service level agreements).

Regarding Claim 26, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 24. Jacobson further teaches a database resident within the hub and configured to store (Column 8 lines 33 – 39, the workstation will store capacity allocation information such that an operator can monitor and configure said capacity allocation thus there is an inherent database for said storage of said capacity allocation).

Regarding Claim 27, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 24. Jacobson further teaches specifying to occur on an hourly basis (Column 3 lines 38 – 44, the scheduled time can be hourly).

Regarding Claim 28, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 24. Montpetit further teaches whether to permit the terminal to burst over a committed information rate (CIR) (Column 8 lines 1 – 5, rate based requests require a dedicated number of slots per frame and thus there will be a committed information rate).

Regarding Claim 29, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 24. Jacobson further teaches wherein the system capacity includes uplink and downlink capacity of a satellite (Column 13 lines 65 – 67, Column 14 lines 1 – 4). Montpetit further teaches managing the uplink capacity and the downlink capacity by controlling admission of the terminal (Column 11 lines 43 – 48).

Regarding Claim 30, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 29. Montpetit further teaches wherein the uplink capacity is categorized according to service classes that include a scheduled class (Column 7 lines 64 – 67, Column 8 lines 1 – 5, since the terminal is allocated a specified number of time slots per frame said terminal will be scheduled to transmit on said time slots per frame), an on-demand class (Column 6 lines 56 – 61), a high priority connectionless class (Column 6 lines 1 – 2, Column 8 lines 31 – 40), and a low priority connectionless class (Column 6 lines 1 – 2, Column 8 lines 31 – 40). Jacobson further teaches the downlink capacity being categorized according to transmission services that include a broadcast

service (Column 14 lines 33 – 39), a multicast service (Column 14 lines 33 – 39), and a

point-to-point service (Figure 1, there is a link between point 1 (satellite) and point 2

(site 1)).

Regarding Claim 31, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 30. Montpetit further teaches a database configured to store

system capacity resource configuration data that include information relating to the

service classes of the uplink capacity (Column 5 lines 65 – 67, Column 6 lines 1 – 2,

Column 6 lines 56 – 58, Column 11 lines 43 – 48, the satellite system will only allocate

bandwidth to terminals that are in one of the four classes thus there is an inherent

database for the determination of whether or not a requesting terminal is permitted

terminal). Jacobson further teaches transmission services of the downlink capacity

(Column 14 lines 33 – 39).

Regarding Claim 35, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 24. Montpetit further teaches a provisioning interface that

permits a network service provider to supply the predetermined profile (Column 5 lines 6

- 10).

Regarding Claim 36, Montpetit teaches a satellite communications system for

providing communication services, the system comprising: means for receiving a

predetermined profile of a terminal that is served by the communication system, the

predetermined profile including service class information and rate information (Column 4

lines 61 – 64, Column 5 lines 62 – 67, Column 6 lines 1 – 2, Column 7 lines 64 – 67,

Column 8 lines 1 – 5, Column 8 lines 31 - 40); means for generating a capacity plan

based upon the predetermined profile (Column 6 lines 56 - 61); and means for

configuring a remote processor according to the capacity plan, the remote processor

being configured to process bandwidth request messages from the terminal and to

selectively allocate bandwidth to the terminal in response to the bandwidth request

messages (Column 9 lines 40 - 45).

Montpetit does not teach a means for receiving system capacity resource

configuration data that reflect capacity requirements of a service provider and

generating a capacity plan based upon said capacity resource configuration.

Jacobson teaches a means for receiving system capacity resource configuration

data that reflect capacity requirements of a service provider and generating a capacity

plan based upon said capacity resource configuration (Column 8 lines 33 – 39).

Montpetit and Jacobson (Column 3 lines 6 – 9) both teach a satellite network that

manages the bandwidth such that there is an efficient use of said bandwidth thus it

would have been obvious to one of ordinary skill in the art at the time the invention was

made to use the means described above in Jacobson in the satellite network of

Montpetit for the purpose of analyzing network usage patterns such that a transmission

plan schedule that efficiently allocates satellite bandwidth available to the network

based on the history of said usage patterns is determined.

Regarding Claim 37, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 36.  Montpetit further teaches means for controlling

admission of the terminal into the communication system based, in part, on the ST

profile (Column 5 lines 65 – 67, Column 11 lines 43 – 48, the satellite system only

recognizes ground terminals is one of the four classes thus if a ground terminal does not fall into one of said four classes said ground terminal will be denied access).

Regarding Claim 38, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 36. Montpetit further teaches means for inputting the predetermined profile of the terminal by the service provider (Column 5 lines 6 – 10, the user interface will allow the inputting of data), the predetermined profile being based on a service level agreement (Column 5 lines 62 – 67, the demands and service parameters for a particular market will determine the service level agreements).

Regarding Claim 39, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 36. Montpetit further teaches specifying whether to permit the terminal to burst over a committed information rate (CIR) (Column 8 lines 1 – 5, rate based requests require a dedicated number of slots per frame and thus there will be a committed information rate).

Regarding Claim 40, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 36. Jacobson further teaches specifying to occur on an hourly basis (Column 3 lines 38 – 44, the scheduled time can be hourly).

Regarding Claim 41, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 36. Jacobson further teaches uplink and downlink capacity of a satellite (Column 13 lines 65 – 67, Column 14 lines 1 – 4).

Regarding Claim 42, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 41. Montpetit further teaches wherein the uplink capacity is categorized according to service classes that include a scheduled class (Column 7 lines

64 – 67, Column 8 lines 1 – 5, since the terminal is allocated a specified number of time

slots per frame said terminal will be scheduled to transmit on said time slots per frame),

an on-demand class (Column 6 lines 56 – 61), a high priority connectionless class

(Column 6 lines 1 – 2, Column 8 lines 31 – 40), and a low priority connectionless class

(Column 6 lines 1 – 2, Column 8 lines 31 – 40).  Jacobson further teaches the downlink

capacity being categorized according to transmission services that include a broadcast

service (Column 14 lines 33 – 39), a multicast service (Column 14 lines 33 – 39), and a

point-to-point service (Figure 1, there is a link between point 1 (satellite) and point 2

(site 1)).

Regarding Claim 43, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 42.  Montpetit further teaches information relating to the

service classes of the uplink capacity (Column 5 lines 65 – 67, Column 6 lines 1 – 2,

Column 6 lines 56 – 58).  Jacobson further teaches transmission services of the

downlink capacity (Column 14 lines 33 – 39).

Regarding Claim 47, Montpetit teaches receiving a predetermined profile of a

terminal that is served by the communication system, the predetermined profile

including service class information and rate information (Column 4 lines 61 – 64,

Column 5 lines 62 – 67, Column 6 lines 1 – 2, Column 7 lines 64 – 67, Column 8 lines 1

– 5, Column 8 lines 31 - 40); generating a capacity plan based upon the predetermined

profile (Column 6 lines 56 - 61); and configuring a remote processor according to the

capacity plan, the remote processor being configured to process bandwidth request

messages from the terminal and to selectively allocate bandwidth to the terminal in response to the bandwidth request messages (Column 9 lines 40 - 45).

Montpetit does not teach a computer-readable medium carrying one or more sequences of one or more instructions for managing system capacity of a communication system, the one or more sequences of one or more instructions which, when executed by one or more processors, cause the one or more processors to perform and receiving system capacity resource configuration data that reflect capacity requirements of a service provider and generating a capacity plan based upon said capacity resource configuration.

Jacobson teaches a computer-readable medium carrying one or more sequences of one or more instructions for managing system capacity of a communication system, the one or more sequences of one or more instructions which, when executed by one or more processors, cause the one or more processors to perform (Column 8 lines 33 – 39, the management component runs on a Windows NT workstation thus there is an inherent computer-readable medium) and receiving system capacity resource configuration data that reflect capacity requirements of a service provider and generating a capacity plan based upon said capacity resource configuration (Column 8 lines 33 – 39).

Montpetit and Jacobson (Column 3 lines 6 – 9) both teach a satellite network that manages the bandwidth such that there is an efficient use of said bandwidth thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the method and computer-readable medium described above in Jacobson

in the satellite network of Montpetit for the purpose of analyzing network usage patterns

such that a transmission plan schedule that efficiently allocates satellite bandwidth

available to the network based on the history of said usage patterns is determined.

Regarding Claim 48, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 47. Montpetit further teaches controlling admission of the

terminal into the communication system based, in part, on the ST profile (Column 5

lines 65 – 67, Column 11 lines 43 – 48, the satellite system only recognizes ground

terminals is one of the four classes thus if a ground terminal does not fall into one of

said four classes said ground terminal will be denied access).

Regarding Claim 49, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 47. Montpetit further teaches inputting the predetermined

profile of the terminal by the service provider (Column 5 lines 6 – 10, the user interface

will allow the inputting of data), the predetermined profile being based on a service level

agreement (Column 5 lines 62 – 67, the demands and service parameters for a

particular market will determine the service level agreements).

Regarding Claim 50, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 49. Jacobson further teaches an operator interface (Column

8 lines 33 – 39).

Regarding Claim 51, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 50. Montpetit further teaches specifying whether to permit

the terminal to burst over a committed information rate (CIR) (Column 8 lines 1 – 5, rate

based requests require a dedicated number of slots per frame and thus there will be a committed information rate).

Regarding Claim 52, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 50. Jacobson further teaches performing on an hourly basis (Column 3 lines 38 – 44, the scheduled time can be hourly).

Regarding Claim 53, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 47. Jacobson further teaches uplink and downlink capacity of a satellite (Column 13 lines 65 – 67, Column 14 lines 1 – 4).

Regarding Claim 54, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 53. Montpetit further teaches wherein the uplink capacity is categorized according to service classes that include a scheduled class (Column 7 lines 64 – 67, Column 8 lines 1 – 5, since the terminal is allocated a specified number of time slots per frame said terminal will be scheduled to transmit on said time slots per frame), an on-demand class (Column 6 lines 56 – 61), a high priority connectionless class (Column 6 lines 1 – 2, Column 8 lines 31 – 40), and a low priority connectionless class (Column 6 lines 1 – 2, Column 8 lines 31 – 40). Jacobson further teaches the downlink capacity being categorized according to transmission services that include a broadcast service (Column 14 lines 33 – 39), a multicast service (Column 14 lines 33 – 39), and a point-to-point service (Figure 1, there is a link between point 1 (satellite) and point 2 (site 1)).

Regarding Claim 55, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 54. Montpetit further teaches information relating to the

service classes of the uplink capacity (Column 5 lines 65 – 67, Column 6 lines 1 – 2,

Column 6 lines 56 – 58). Jacobson further teaches transmission services of the

downlink capacity (Column 14 lines 33 – 39).


4.      Claims 10, 21, 32, 44, and 56 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Montpetit (US 6,366,761) in view of Jacobson et al. (US 6,381,250)

as applied to claims 7, 18, 29, 41, and 53 above, and further in view of Smith (US

6,498,937).

Regarding Claim 10, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 7. Montpetit further teaches transmitting configuration

information that specifies demodulator assignment and demodulator carrier rate

associated with the uplink capacity, the uplink capacity being partitioned (Column 11

lines 53 – 60, Column 12 lines 25 – 27, once the uplink bandwidth has been allocated

the demodulator will be assigned to demodulate/decode the packets, there will

inherently be a carrier rate because said demodulator will not be able to demodulate the

signal without knowing the carrier rate).

Montpetit in view of Jacobson does not teach a plurality of demodulators.

Smith teaches a plurality of demodulators (Column 4 lines 23 – 24, there is a

demodulator for each band thus there will be more than one demodulator).

Montpetit in view of Jacobson and Smith teach a satellite payload that processes

the uplink signals thus it would have been obvious to one of ordinary skill in the art at

the time the invention was made to use the plurality of demodulators taught in Smith in

the satellite system of Montpetit in view of Jacobson for the purposes of: demodulating

uplink signals across multiple bands thus creating a more flexible satellite system,

supporting a light code for normal service, and supporting a heavy code to compensate

for rain loss.

Regarding Claim 21, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 18. Montpetit further teaches a demodulator configured to

receive signals from the terminal, the configuration information specifying demodulator

assignment and demodulator carrier rate associated with the uplink capacity, the uplink

capacity being partitioned (Column 11 lines 53 – 60, Column 12 lines 25 – 27, once the

uplink bandwidth has been allocated the demodulator will be assigned to

demodulate/decode the packets, there will inherently be a carrier rate because said

demodulator will not be able to demodulate the signal without knowing the carrier rate).

Montpetit in view of Jacobson does not teach a plurality of demodulators.

Smith teaches a plurality of demodulators (Column 4 lines 23 – 24, there is a

demodulator for each band thus there will be more than one demodulator).

Montpetit in view of Jacobson and Smith teach a satellite payload that processes

the uplink signals thus it would have been obvious to one of ordinary skill in the art at

the time the invention was made to use the plurality of demodulators taught in Smith in

the satellite system of Montpetit in view of Jacobson for the purposes of: demodulating

uplink signals across multiple bands thus creating a more flexible satellite system,

supporting a light code for normal service, and supporting a heavy code to compensate

for rain loss.

Regarding Claim 32, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 29. Montpetit further teaches a demodulator configured to receive signals from the terminal, the configuration information specifying demodulator assignment and demodulator carrier rate associated with the uplink capacity, the uplink capacity being partitioned (Column 11 lines 53 – 60, Column 12 lines 25 – 27, once the uplink bandwidth has been allocated the demodulator will be assigned to demodulate/decode the packets, there will inherently be a carrier rate because said demodulator will not be able to demodulate the signal without knowing the carrier rate).

Montpetit in view of Jacobson does not teach a plurality of demodulators.

Smith teaches a plurality of demodulators (Column 4 lines 23 – 24, there is a demodulator for each band thus there will be more than one demodulator).

Montpetit in view of Jacobson and Smith teach a satellite payload that processes the uplink signals thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the plurality of demodulators taught in Smith in the satellite system of Montpetit in view of Jacobson for the purposes of: demodulating uplink signals across multiple bands thus creating a more flexible satellite system, supporting a light code for normal service, and supporting a heavy code to compensate for rain loss.

Regarding Claim 44, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 41. Montpetit further teaches a demodulator configured to receive signals from the terminal, the configuration information that specifies demodulator assignment and demodulator carrier rate associated with the uplink

capacity, the uplink capacity being partitioned (Column 11 lines 53 – 60, Column 12

lines 25 – 27, once the uplink bandwidth has been allocated the demodulator will be

assigned to demodulate/decode the packets, there will inherently be a carrier rate

because said demodulator will not be able to demodulate the signal without knowing the

carrier rate).

Montpetit in view of Jacobson does not teach a plurality of demodulators.

Smith teaches a plurality of demodulators (Column 4 lines 23 – 24, there is a

demodulator for each band thus there will be more than one demodulator).

Montpetit in view of Jacobson and Smith teach a satellite payload that processes

the uplink signals thus it would have been obvious to one of ordinary skill in the art at

the time the invention was made to use the plurality of demodulators taught in Smith in

the satellite system of Montpetit in view of Jacobson for the purposes of: demodulating

uplink signals across multiple bands thus creating a more flexible satellite system,

supporting a light code for normal service, and supporting a heavy code to compensate

for rain loss.

Regarding Claim 56, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 53. Montpetit further teaches a demodulator configured to

receive signals from the terminal, the configuration information specifying demodulator

assignment and demodulator carrier rate associated with the uplink capacity, the uplink

capacity being partitioned (Column 11 lines 53 – 60, Column 12 lines 25 – 27, once the

uplink bandwidth has been allocated the demodulator will be assigned to

demodulate/decode the packets, there will inherently be a carrier rate because said

demodulator will not be able to demodulate the signal without knowing the carrier rate).

Montpetit in view of Jacobson does not teach a plurality of demodulators.

Smith teaches a plurality of demodulators (Column 4 lines 23 – 24, there is a

demodulator for each band thus there will be more than one demodulator).

Montpetit in view of Jacobson and Smith teach a satellite payload that processes

the uplink signals thus it would have been obvious to one of ordinary skill in the art at

the time the invention was made to use the plurality of demodulators taught in Smith in

the satellite system of Montpetit in view of Jacobson for the purposes of: demodulating

uplink signals across multiple bands thus creating a more flexible satellite system,

supporting a light code for normal service, and supporting a heavy code to compensate

for rain loss.

5.      Claims 11, 12, 22, 23, 33, 34, 45, 46, 57, and 58 are rejected under 35

U.S.C. 103(a) as being unpatentable over Montpetit (US 6,366,761) in view of Jacobson

et al. (US 6,381,250) as applied to claims 1, 13, 24, 36, and 47 above, and further in

view of Courtney et al. (US 6,665,518).

Regarding Claim 11, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 1.  Montpetit in view of Jacobson does not teach initially

partitioning the system capacity according to at least one of a uniform distribution and a

distribution based upon population density.

Courtney teaches initially partitioning the system capacity according to at least

one of a uniform distribution and a distribution based upon population density (Column 4

lines 21 – 24, Column 5 lines 14 – 16, Table 1, an engineering and marketing study will

encompass distribution based upon population density such that Table 1 will be

accurate).

Montpetit in view of Jacobson and Courtney teach a satellite system that

allocates bandwidth thus it would have been obvious to one of ordinary skill in the art at

the time the invention was made to use partitioning method taught in Courtney in the

satellite system of Montpetit in view of Jacobson for the purpose of expanding the

satellite system to accommodate new markets.

Regarding Claim 12, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 1.  Montpetit in view of Jacobson does not teach partitioning

the system capacity based upon capacity requirements of a plurality of network service

providers, a portion of the system capacity being designated as a shared capacity pool.

Courtney teaches partitioning the system capacity based upon capacity

requirements of a plurality of network service providers, a portion of the system capacity

being designated as a shared capacity pool (Column 4 lines 21 – 24, Column 5 lines 14

– 16, Table 1, there can be a market that has more than one network service provider

and thus Table 1 can be based on an engineering and marketing study for more than

one service provider).

Montpetit in view of Jacobson and Courtney teach a satellite system that

allocates bandwidth thus it would have been obvious to one of ordinary skill in the art at

the time the invention was made to use partitioning method taught in Courtney in the satellite system of Montpetit in view of Jacobson for the purpose of expanding the satellite system to accommodate new markets with a plurality of service providers.

Regarding Claim 22, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 13. Montpetit in view of Jacobson does not teach initially partitioning the system capacity according to at least one of a uniform distribution and a distribution based upon population density.

Courtney teaches initially partitioning the system capacity according to at least one of a uniform distribution and a distribution based upon population density (Column 4 lines 21 – 24, Column 5 lines 14 – 16, Table 1, an engineering and marketing study will encompass distribution based upon population density such that Table 1 will be accurate).

Montpetit in view of Jacobson and Courtney teach a satellite system that allocates bandwidth thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use partitioning method taught in Courtney in the satellite system of Montpetit in view of Jacobson for the purpose of expanding the satellite system to accommodate new markets.

Regarding Claim 23, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 13. Montpetit in view of Jacobson does not teach partitioning the system capacity based upon capacity requirements of a plurality of network service providers, a portion of the system capacity being designated as a shared capacity pool.

Courtney teaches partitioning the system capacity based upon capacity

requirements of a plurality of network service providers, a portion of the system capacity

being designated as a shared capacity pool (Column 4 lines 21 – 24, Column 5 lines 14

– 16, Table 1, there can be a market that has more than one network service provider

and thus Table 1 can be based on an engineering and marketing study for more than

one service provider).

Montpetit in view of Jacobson and Courtney teach a satellite system that

allocates bandwidth thus it would have been obvious to one of ordinary skill in the art at

the time the invention was made to use partitioning method taught in Courtney in the

satellite system of Montpetit in view of Jacobson for the purpose of expanding the

satellite system to accommodate new markets with a plurality of service providers.

Regarding Claim 33, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 24. Montpetit in view of Jacobson does not teach initially

partitioning the system capacity according to at least one of a uniform distribution and a

distribution based upon population density.

Courtney teaches initially partitioning the system capacity according to at least

one of a uniform distribution and a distribution based upon population density (Column 4

lines 21 – 24, Column 5 lines 14 – 16, Table 1, an engineering and marketing study will

encompass distribution based upon population density such that Table 1 will be

accurate).

Montpetit in view of Jacobson and Courtney teach a satellite system that

allocates bandwidth thus it would have been obvious to one of ordinary skill in the art at

the time the invention was made to use the partitioning method taught in Courtney in the satellite system of Montpetit in view of Jacobson for the purpose of expanding the satellite system to accommodate new markets.

Regarding Claim 34, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 24. Montpetit in view of Jacobson does not teach partitioning the system capacity based upon capacity requirements of a plurality of network service providers, a portion of the system capacity being designated as a shared capacity pool.

Courtney teaches partitioning the system capacity based upon capacity requirements of a plurality of network service providers, a portion of the system capacity being designated as a shared capacity pool (Column 4 lines 21 – 24, Column 5 lines 14 – 16, Table 1, there can be a market that has more than one network service provider and thus Table 1 can be based on an engineering and marketing study for more than one service provider).

Montpetit in view of Jacobson and Courtney teach a satellite system that allocates bandwidth thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use partitioning method taught in Courtney in the satellite system of Montpetit in view of Jacobson for the purpose of expanding the satellite system to accommodate new markets with a plurality of service providers.

Regarding Claim 45, Montpetit in view of Jacobson teaches all of the claimed limitations recited in Claim 36. Montpetit in view of Jacobson does not teach initially partitioning the system capacity according to at least one of a uniform distribution and a distribution based upon population density.

Courtney teaches initially partitioning the system capacity according to at least

one of a uniform distribution and a distribution based upon population density (Column 4

lines 21 – 24, Column 5 lines 14 – 16, Table 1, an engineering and marketing study will

encompass distribution based upon population density such that Table 1 will be

accurate).

Montpetit in view of Jacobson and Courtney teach a satellite system that

allocates bandwidth thus it would have been obvious to one of ordinary skill in the art at

the time the invention was made to use the partitioning method taught in Courtney in the

satellite system of Montpetit in view of Jacobson for the purpose of expanding the

satellite system to accommodate new markets.

Regarding Claim 46, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 36.  Montpetit in view of Jacobson does not teach partitioning

the system capacity based upon capacity requirements of a plurality of network service

providers, a portion of the system capacity being designated as a shared capacity pool.

Courtney teaches partitioning the system capacity based upon capacity

requirements of a plurality of network service providers, a portion of the system capacity

being designated as a shared capacity pool (Column 4 lines 21 – 24, Column 5 lines 14

– 16, Table 1, there can be a market that has more than one network service provider

and thus Table 1 can be based on an engineering and marketing study for more than

one service provider).

Montpetit in view of Jacobson and Courtney teach a satellite system that

allocates bandwidth thus it would have been obvious to one of ordinary skill in the art at

the time the invention was made to use partitioning method taught in Courtney in the

satellite system of Montpetit in view of Jacobson for the purpose of expanding the

satellite system to accommodate new markets with a plurality of service providers.

Regarding Claim 57, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 47. Montpetit in view of Jacobson does not teach initially

partitioning the system capacity according to at least one of a uniform distribution and a

distribution based upon population density.

Courtney teaches initially partitioning the system capacity according to at least

one of a uniform distribution and a distribution based upon population density (Column 4

lines 21 – 24, Column 5 lines 14 – 16, Table 1, an engineering and marketing study will

encompass distribution based upon population density such that Table 1 will be

accurate).

Montpetit in view of Jacobson and Courtney teach a satellite system that

allocates bandwidth thus it would have been obvious to one of ordinary skill in the art at

the time the invention was made to use partitioning method taught in Courtney in the

satellite system of Montpetit in view of Jacobson for the purpose of expanding the

satellite system to accommodate new markets.

Regarding Claim 58, Montpetit in view of Jacobson teaches all of the claimed

limitations recited in Claim 47. Montpetit in view of Jacobson does not teach partitioning

the system capacity based upon capacity requirements of a plurality of network service

providers, a portion of the system capacity being designated as a shared capacity pool.

Courtney teaches partitioning the system capacity based upon capacity

requirements of a plurality of network service providers, a portion of the system capacity

being designated as a shared capacity pool (Column 4 lines 21 – 24, Column 5 lines 14

– 16, Table 1, there can be a market that has more than one network service provider

and thus Table 1 can be based on an engineering and marketing study for more than

one service provider).

Montpetit in view of Jacobson and Courtney teach a satellite system that

allocates bandwidth thus it would have been obvious to one of ordinary skill in the art at

the time the invention was made to use partitioning method taught in Courtney in the

satellite system of Montpetit in view of Jacobson for the purpose of expanding the

satellite system to accommodate new markets with a plurality of service providers.


### *Conclusion*

6.      Any inquiry concerning this communication should be directed to Raymond S.

Dean at telephone number (703) 305-8998.

If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor,

Nay Maung, can be reached at (703) 308-7745.  Any response to this action should be

mailed to:
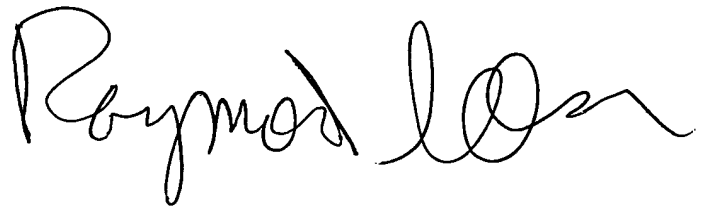
       Commissioner of Patents and Trademarks

       Washington, D.C. 20231

Or faxed to:

       (703) 872-9314 (for Technology center 2600 only)

Hand – delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,

Arlington, VA, Sixth Floor (Receptionist).  Any inquiry of a general nature or relating to

the status of this application or proceeding should be directed to the Technology Center

2600 Customer Service Office whose telephone number is (703) 306-0377

NAY MAUNG
**SUPERVISORY PATENT EXAMINER**